FORECASTING RISK TO PREVENT MENTAL DISORDERS

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Case presentation

A 17-year old boy was referred from the general practitioner to the local psychosis early detection clinic due to a drop in functioning and social withdrawal over the previous six months. Concerned about his increasing social isolation, his mother encouraged him to seek help. He began college six months prior but had found the workload difficult, failing his exams. During this period, he reported that he could not relate to people at college or to friends. He had no family history of mental disorders, denied any current or past use of drugs and reported no significant medical history. He was well kempt, quiet during his interview, providing short answers. He reported that he no longer enjoyed his former interests, but there were no clear signs of depressive disorders. No formal thought disorders were elicited. He believed that random people looked and talked about him when he was out in public. He was 80% convinced that this was occurring but was able to question it. He stated that these people were probably commenting on the way he looked but he did not believe these individuals meant him harm. He never acted on these thoughts. He also reported a vague feeling of perplexity and derealisation. These experiences began when he started college and continued to occur every day for up to an hour at a time (if he was outside), causing significant distress. At the Structured Clinical Interview for DSM he did not meet diagnostic criteria for any mental disorder.

Prognosis

Clinical High Risk for Psychosis (CHR-P[1]), Attenuated Psychotic Symptoms subgroup, determined using the Comprehensive Assessment of At Risk Mental States (CAARMS)[2]. Increased risk of developing psychosis: 26% at 3 years (95%CI 23% - 30%)[3].

What Would You Do Next?	
A	Discharge to general practitioner with no clinical recommendations
B	Pharmacotherapy with low dose atypical antipsychotics
C	Clinical follow-up for at least 3 years and indicated primary prevention
D	Treatment with omega-3 fish oil dietary supplementation

What to do next

C. Clinical follow-up for at least 3 years and indicated primary prevention.

Discussion

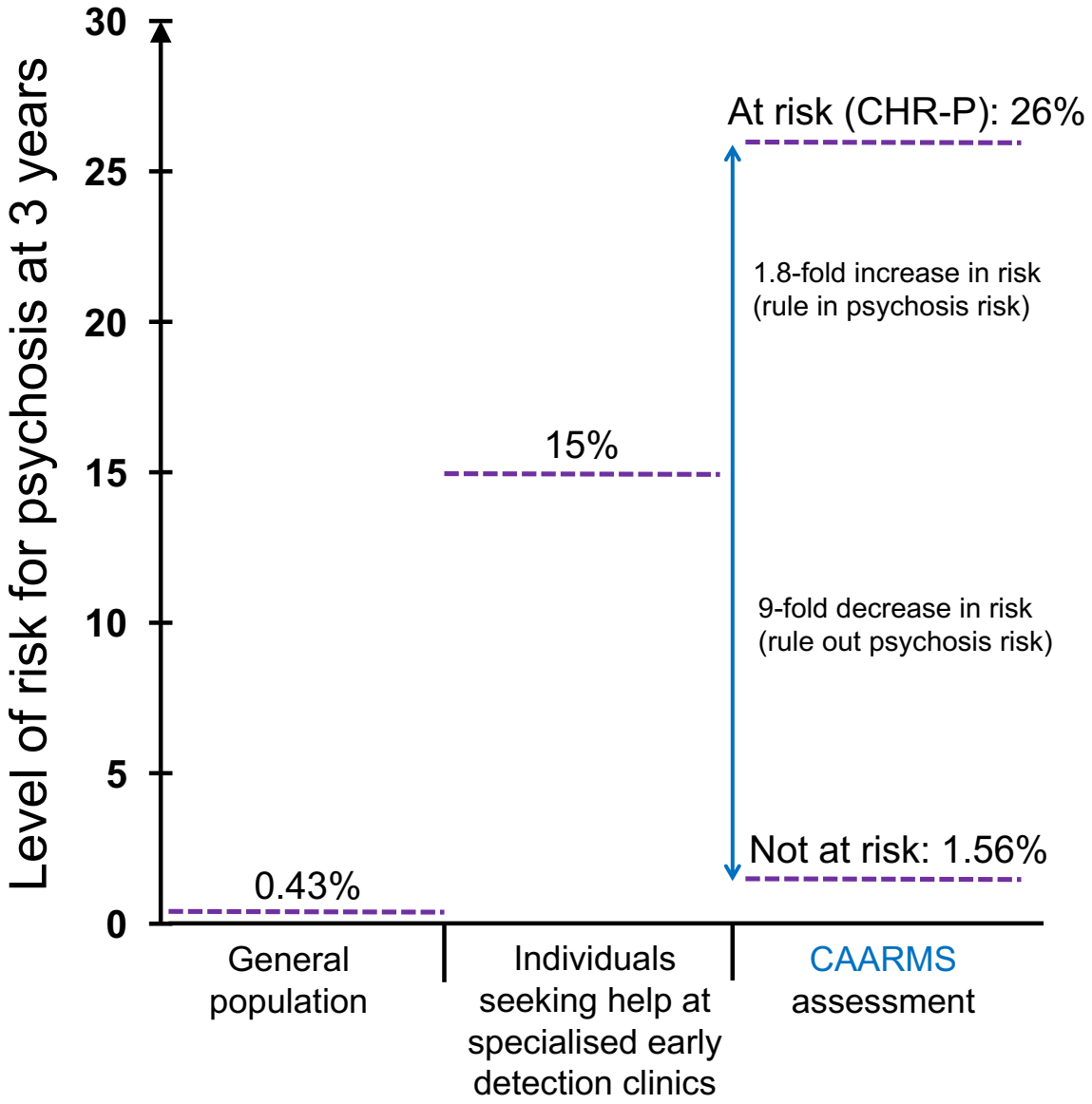
Children, adolescents and young adults (aged 8-40) who seek help at specialised early detection clinics have an enhanced risk of developing mental disorders -such as psychosis- compared to the

local age-matched general population (15%[4] vs 0.43%[5] at 3 years, respectively, Figure 1). Fully addressing their presenting problems requires forecasting their risk -i.e. probability- of developing future outcomes. The development of semi-structured psychometric interviews (prognostic tools) to assess CHR-P criteria has allowed formulating a prognosis of being at risk or not at risk for psychosis[3]. The original prognostic tool in this field (the CAARMS[2]) was developed on the basis of accumulating knowledge of the specific symptoms that may predate the onset of psychosis (defined as binary outcome). The CAARMS is transdiagnostic, allowing the presence of several comorbid mental disorders at baseline, which are frequent in these patients[6]. Specific training is needed to use it and its administration usually requires 2 hours in the context of a clinical assessment[7]. Extensive international validation has confirmed that, in people referred to psychosis early detection services, the CAARMS has an adequate prognostic performance, comparable to other prognostic instruments used in medicine[3]. Viceversa, it does not work well outside these samples[3]. Its potentials include a good ability to rule out a state of risk for psychosis, while its limitations include only a moderate ability to rule in a state of risk for psychosis (Figure 1)[4]. This prognostic tool has allowed one of the first preventive approaches to psychotic disorders to be implemented in psychiatry[8]. Several other variants of the CAARMS have been developed, with almost comparable prognostic performance[3]. The use of these prognostic tools in individuals seeking help at psychosis early detection clinics can impact their clinical management by: (i) informing patients about their risk of developing psychosis, (ii) establishing whether clinical monitoring for the outcome is required, and (iii) deciding whether to initiate preventive treatments or not.

Our patient was meeting the CHR-P criteria and therefore was predicted to have an enhanced risk -26% at 3 years[3] (Figure 1)- of developing emerging psychotic disorders over time, compared to help-seeking individuals not meeting CHR-P criteria (who have only 1.56% risk of developing psychosis at 3 years[3], Figure 1). First, we have shared with our patient the result of the prognostic test, in the context of psychoeducational support offered by psychosis early detection clinics. Informing patients about their risks is an essential component of preventive approaches in all branches of medicine. For example, CHR-P individuals accumulate several risk factors for psychosis, some of which may be potentially modifiable[9]. The second clinical impact of our prognostic assessment was to recommend close clinical monitoring over the ensuing 3 years, because this is the peak of risk[3]. Monitoring for adverse clinical outcomes is per se clinically helpful because we would be ready to intervene in the case of clinical deterioration. Finally, our patient was offered specific preventive interventions (termed indicated primary prevention) that were based on psychological therapies (cognitive behavioural therapy). These treatments aim at improving the presenting symptoms and disability[10] and to stop the progression to psychosis. Although psychological therapies are currently recommended (while antipsychotics are not recommended)[8], their effectiveness is not fully established and other experimental therapeutics have been investigated. Over the past years, omega-3 interventions have

received high levels of interest because of their benign profile, but they were recently found not to be effective. The first ever pharmaceutical-funded randomised controlled trial in these patients (testing a phosphodiesterase-9 inhibitor) has just started and involves risk stratification, confirming that forecasting risk through prognosis is becoming a cornerstone of preventive psychiatry. Recent developments in prognostic tools might additionally allow prediction (and potential prevention) of the onset of mental disorders other than psychosis[11].

Figure 1. Prognostic tools for forecasting emerging mental disorders (psychosis). Individuals seeking help at specialised psychosis early detection clinics have a higher risk of developing psychosis (15% at 3 years[4]) than the general population (0.43% at 3 years)[5]. Those who will meet the Clinical High Risk for Psychosis (CHR-P) criteria at the prognostic interview (CAARMS) will have only a modest increase in their level of risk for psychosis (1.8-fold, from 15% to 26%). Those not meeting the CHR-P criteria[3] will have a substantial decrease of their risk (9-fold, from 15% to 1.56%).



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